

October 28, 2004

LICENSEE: Nuclear Management Company, LLC

FACILITY: Point Beach Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF CONFERENCE CALL WITH NUCLEAR MANAGEMENT COMPANY, LLC (NMC) TO DISCUSS RESPONSES TO THE SEVERE ACCIDENT MITIGATION ALTERNATIVES (SAMA) REQUESTS FOR ADDITIONAL INFORMATION (RAIs)

On October 7, 2004, the U.S. Nuclear Regulatory Commission (NRC) staff, experts from Pacific Northwest National Laboratory (PNNL), and NMC, conducted a conference call to discuss NMC's August 31, 2004, responses to NRC staff requests for additional information (RAIs) on severe accident mitigation alternatives (SAMA) analyses for Point Beach Nuclear Plant, Units 1 and 2 (PBNP). Enclosure 1 is the list of participants. Enclosure 2 contains comments on the RAI responses that were provided to NMC prior to the conference call. The following is a summary of the discussions.

Opening statements were made by Cristina Guerrero, NRC's meeting facilitator; Richard Emch, NRC Backup Project Manager; and Robert Palla NRC reviewer on SAMA. Robert Palla led the meeting discussing areas of difficulty with the RAIs.

With the exception of the follow-up question related to RAI 9, NMC agreed to respond to all of the items identified in the conference call. With regards to RAI 9, NMC noted that the Steam Generator Tube Rupture (SGTR) release fractions for PBNP were in fact similar to those for Ginna (calling into question the premise for our follow-up on RAI 9). The staff agreed to check into this following the call and get back to them. Based on further consideration, the staff agrees that NMC should drop the question related to RAI 9, but specifically consider SGTR-related SAMAs from other plants in the PBNP response to the question related to RAI 6.

The staff also asked a few clarifying questions:

- Clarify whether there are two PRAs (Unit 1 and Unit 2), or if there is just one PRA that is being applied to both Units. If there are two PRAs, which one is used in the results provided in the ER and the RAI responses?
- In Section 4.20.5 of the ER, PBNP identifies that there were 9 SAMA candidates which required further evaluation. Please identify these nine SAMAs.

- In PBNP's RAI response to Question 2.a, please provide further information on:  
Compartment 187: A cost-beneficial assessment of adding Automatic Suppression and any other actions considered, relative to PBNP's statement "No other actions have been identified." Compartment 326: Rationale for the statement, "No further action is necessary." Compartment 319: What modification was installed to correct the situation, and how that modification makes "No further action necessary."
- In Table F.2-2 of the ER, a number of potential SAMAs are identified which involve reducing human error. Of these, three seem to show a potential cost-benefit (181, 185, and 187) and the rest are relatively close to showing a cost-benefit (e.g., about \$20K benefit versus about \$30K cost). For all of these, the RAI response to 10d. indicates that since PRA 3.02 a procedure step mark-off has been implemented. However, no further evaluation is provided to show how much this change in procedure effects the core damage frequency (CDF) contribution of these SAMAs. Please provide a re-evaluation of these SAMAs, after the implementation of the procedure mark-off to show that these SAMAs (181, 185, and 187) are no longer cost-beneficial.

No staff decisions were made during the telephone conference.

All questions discussed in the call were docketed by e-mail to NMC on October 13, 2004. The Adams accession number is ML042870219.

**/RAI/**

Stacey Imboden, Project Manager  
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License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-266 and 50-301

Enclosure: As stated

cc w/enclosure: See next page

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LIST OF ATTENDEES  
NUCLEAR MANAGEMENT COMPANY, LLC  
REGARDING POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2  
OCTOBER 7, 2004

**Attendees**

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Fred Leverenz  
Bruce Schmitt  
Jim Knorr  
Jim Fulford  
Ed Krantz  
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## COMMENTS ON POINT BEACH RAI RESPONSES

### **RAI 1.a.iii**

The utility reports that the revision of the HRA per the peer review would have impacted two SAMAs—a new SAMA relative to operator action to cross-tie 480VAC power and an existing SAMA (180) would be more cost beneficial. For other human error events, NMC reports implementation of "procedure mark offs". Do the procedures relative to these two items implement this "procedure mark off"? If not, explain why these should not be further assessed as potential cost-beneficial SAMAs. The response also states that there is no way of reducing the impact of human error except automation, which is too costly. Further justify this premise, especially, since other SAMA analyses were not reviewed as part of the SAMA identification process (see RAI 6 below).

### **RAI 1.a.v**

A date of 10/12/2001 is provided for Revision 3.00 (the PRA version that was peer reviewed). This date is later than the date of the peer review, which was said to have been conducted in June 2001. Explain.

### **RAI 1.b**

CDF and population dose (rem) information provided in the Second and Third Table can be used to determine the population dose (per event) for each event type. The population dose values obtained this way do not agree with the values in ER Table F.1-4. Also, use of the CDF values in the RAI response, in conjunction with the dose and dollar values in ER Table F.1-4, do not yield the same annual dose and offsite economic cost values as used in the ER. Explain.

### **RAI 1.e**

ER Table F.1-2 and F.1-4 provide information for only 4 release categories. Early SGTR and ISLOCA are grouped together in Table F.1-2, but ISLOCA results are not shown in Table F.1-4. Per the RAI response, ISLOCA consequences were assumed to be 6X larger than the SGTR values, but it is not clear whether both the person-rem and dollar values for ISLOCA were increased in this manner. Provide a separate breakout of the ISLOCA consequences.

### **RAI 3**

The response does not provide the one-to-one cross reference requested. Please indicate which SAMA number from Table F.2-1 considers each of the dominant contributors. For each dominant contributor from Attachment 1 that does not tie to a SAMA in Table F.2-1, justify why no SAMA was identified and evaluated.

#### **RAI 4**

Based on the response, the costs per unit for SAMA 169 could be conservatively estimated at \$100K (1/2 of the reported value). This SAMA would appear cost-beneficial at 3% discount rate or when uncertainties are considered. Provide additional justification why this SAMA should not be implemented (including a more realistic estimate of costs or benefits, if appropriate).

#### **RAI 6**

The response does not address the request to consider low-cost options identified in Ft. Calhoun, R. E. Ginna, and D. C. Cook. This information is needed to conclude the adequacy of the set of candidate SAMAs evaluated in the ER.

#### **RAI 9**

The response did not address the question regarding the differences in release fractions between Point Beach and R. E. Ginna. In the absence of this information, justify that no SGTR-related SAMAs would become cost-beneficial if the fission product releases for SGTR events were substantially higher, and similar to those for Ginna. Also address the implications of higher SGTR releases on the identification of cost-beneficial SAMAs for ISLOCA, since the consequences for ISLOCA events are treated as a multiple of those for SGTR.

#### **RAI 10b**

Information requested in the first portion of this RAI has not been provided (details of the benefit assessment for selected SAMAs, description of the modifications considered, and explanation why human error probability could not be reduced by other means). This information is needed to conclude the adequacy of the set of candidate SAMAs evaluated for SGTR events.

#### **RAI 10d**

The response does not address the request to provide the residual benefit after implementation, and an explanation why further actions would not be cost-beneficial. (We are unconvinced that any further enhancements would need to involve replacing human action with an automated system. In fact, based on scoping calculations, the change in human errors by a factor of 3 does not change the importance measure of any of the highest (RRW) human errors. Please provide the requested information.

Point Beach Nuclear Plant, Units 1 and 2

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